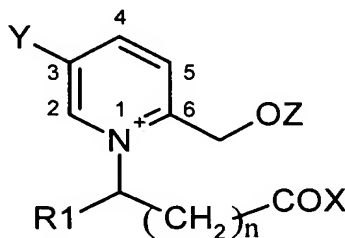


THE CLAIMS

What is claimed is:

- 5 1. A Pyridinium-Betain compound having the general formula (A)



10

(A)

wherein R₁ is H or a primary amino acids that is attached to the structure,

X is OH or its ionised form O⁻,

Y is OH, SH, or their ionised forms O⁻ and S⁻,

15

Z is H, an alkyl group, or a glycosidic group, or a phosphate or ester derivative thereof, and

n is an integer of 0 to 4 to represent the chain length of the compound.

20

2. The compound of claim 1 wherein a counter-ion of sodium, potassium, ammonium, calcium, magnesium, chloride, nitrate, carbonate, sulphate, or phosphate is associated with the compound.

25

3. The compound of claim 1 wherein R₁ is glycine, alanine, valine, leucine, isoleucine, phenylalanine, tryptophan, methionine, serine, threonine, cysteine, tyrosine, asparagine, glutamine, aspartic acid, glutamic acid, lysine, 5-hydroxylysine, ornithine, histidine or arginine.

4. The compound of claim 1, wherein R₁ is L-alanine, Y is OH or O⁻, Z is hydrogen, and n is 0.

5. The compound of claim 1, wherein R1 is glycine, Y is OH or O⁻, Z is hydrogen atom, and n is 0.
6. The compound of claim 1, wherein X is an amino acid or oligopeptide, comprising primary and secondary L-amino acids, and is attached via peptide bonds.
7. The compound of claim 1, in the form of its S-isomer.
8. A food composition comprising a food and a Pyridinium-Betain compound according to claim 1 in a taste effective amount sufficient to enhance sweetness, saltiness or umami taste characteristics of the food or to reduce bitter taste characteristics of the food.
9. The food composition of claim 8, wherein the food is chocolate, ice-cream, a beverage, a sugar confectionery, a culinary product, or a petfood.
10. The food composition of claim 8, wherein the Pyridinium-Betain compound is present in an amount of between 0.01 and 3000 mg/kg of the composition.
11. The food composition of claim 8, wherein the compound is in the form of its S-isomer.
12. A method of modifying the flavour of a food composition which comprises adding a Pyridinium-Betain compound according to claim 1 in a taste effective amount sufficient to enhance sweetness, saltiness or umami taste characteristics of the food or to reduce bitter taste characteristics of the food.
13. The method of claim 11, wherein the food is chocolate, ice-cream, a beverage, a sugar confectionery, a culinary product, or a petfood.
14. The method of claim 11, wherein the Pyridinium-Betain compound is present in an amount of between 0.01 and 3000 mg/kg of the composition.

15. The method of claim 11, wherein the compound is in the form of its S-isomer.

5 16. A process for the preparation of a Pyridinium-Betain compound according to claim 1, by synthesis using 5-(hydroxymethyl)-2-furaldehyde (HMF) and the corresponding amino acids or peptides to prepare the Pyridinium-Betain compound.

10 17. A process for the preparation of a Pyridinium-Betain compound according to claim 1, by reacting a HMF producing precursors and degradation products thereof with a corresponding amino acids or peptides under conditions sufficient to prepare the Pyridinium-Betain compound.

15 18. The process of claim 16 wherein the HMF precursor is a mono- or polysaccharide.